Wisconsin
Department of Commerce

Approval # 970029-U (Replaces 910017-U)

Safety & Buildings Division
201 East Washington Avenue
P.O. Box 7969
Madison, WI 53707

Wisconsin
Material Approval

Material: EZY Chek I - Overfill, EZY Chek II - Overfill and EZY Chek II - Underfill Leak Detection Systems

Manufacturer: Horner Creative Products
212 Morton Street
Bay City, Michigan 48706

SCOPE OF EVALUATION

The EZY Chek I - Overfill, EZY Chek II - Overfill, and EZY Chek II - Underfill leak detection systems manufactured by Horner Creative Products have been evaluated for use as tank tightness testing systems complying with **section ILHR 10.61 (3)** of the current edition of the Wisconsin Flammable and Combustible Liquids Code.

DESCRIPTION AND USE

EZY Chek I and EZY Chek II are volumetric tank tightness testing systems. The EZY Chek systems may be used for tanks containing gasoline, diesel fuel, aviation fuel, fuel oil #4, solvents, and waste oil. The test results may be invalid for concentrated acids, bases, and products not in liquid form or heavier than #4 grade.

The EZY Chek II - Underfill system is capable of detecting and measuring the inflow of water. The groundwater level is to be determined by an observation well near the tank. The EZY Chek I and EZY Chek II - Overfill methods do not measure inflow of water.

Product temperature is measured during the test using a temperature-averaging probe and a resistance temperature detector type sensor.

The total time needed to test with these systems, including set up time, testing time, and time to return tanks to service, is 7 hours minimum with the EZY Chek I system and 8 hours with the EZY Chek II systems.

With the EZY Chek I system, data are acquired and recorded manually and/or by strip chart. The EZY Chek I sampling frequency for the level and temperature measurements is every 5 minutes. The EZY Chek II systems record data by computer and sample data more than once a second.

The overfill system test procedure corrects for interference due to the presence of groundwater levels above the tank bottom by raising the level of the product, which increases the head pressure. The underfill system corrects for groundwater by waiting for the level to stabilize. With the overfill systems, vapor pockets are identified by erratic readings or sudden large changes in readings. If present, vapor pockets must be bled off and the overfilled test must be started over. Tank deformation changes and stabilization are determined by watching data trends and beginning the test when decrease in the product level has stopped.

Leak rates are calculated using the data collected during the last 1.1 hours of data collection. A threshold value of 0.05 gallon per hour is used to declare that a tank is leaking. Test results are considered to be inconclusive if vapor pockets are present, if there is too much variability in the data, or if there is an unexplained increase in measured product volume.

Lengthening of the duration of the test is an acceptable deviation in standard testing protocol. The test length beyond the minimum and the presence of vapor pockets or unstable deformation may be determined by the testing personnel onsite.

TESTS AND RESULTS

The performance of the EZY Chek systems was determined by William A. Kibbe & Associates, Inc., in accordance with the United States Environmental Protection Agency protocol for volumetric tank tightness testing methods. The EZY Chek I - Overfill sytem was found to be capable of detecting a leak of 0.10 gallon per hour with a probability of false alarm (P(FA)) of 1 percent and a probability of detection (P(D)) of 99 percent.

The EZY Chek II - Overfill system was found to be capable of detecting a leak of 0.10 gallons per hour with a P(FA) of 0.05 percent and a P(D) of 99.95 percent.
The EZY Chek II - Underfill system was found to be capable of detecting a leak of 0.10 gallon per hour with a P(FA) of 4.21 percent and a P(D) of 95.79 percent.

The EPA protocol only addresses the issue of a method's ability to detect leaks, and not the safety hazards of the equipment.

LIMITATIONS OF APPROVAL

The EZY Chek I and EZY Chek II systems are approved for tightness testing of tanks containing petroleum products of grade #4 or lighter, and for tank sizes no larger than 12,000 gallons.

Testing shall be done in accordance with the manufacturer’s instructions and this approval. In the event of conflicts, the more strict requirement shall govern.

The difference between the temperature of added product and in-tank product shall be no greater than + or - 5°F. The temperature of the product in the tank during the test shall be no greater than 90°F.

The tank shall be overfilled to above grade level during the test, or may be filled to 98% of capacity if using the EZY Chek II - Underfill system.

When testing an overfilled tank, the waiting time between filling the tank and the start of test data collection shall be at least 6 hours. The waiting time between "topping off" of the tank with 2 to 5 inches of product to the final test level and the start of data collection shall be at least 3 hours. The combined total time before data collection shall be a minimum of 6 hours. The total time for data collection shall be at least 1.5 hours for the EZY Chek I system and 1.7 hours for the EZY Chek II system.

When testing a tank that is 98 percent full with the EZY Chek II - Underfill system, the waiting time after adding any substantial amount to the tank shall be at least 8 hours. Topping off the tank is not necessary with the underfilled system. The total time for data collection for the EZY Chek II - Underfill system shall be at least 1.7 hours.

This approval will be valid through December 31, 2002, unless manufacturing modifications are made to the product or a reexamination is deemed necessary by the Department. The Wisconsin Building Material Approval Number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Reviewed by; _____

Approval Date: _____ By: _____

Sam Rockweiler, P.E.
Code Development Section
Program Development Bureau

970029-U.doc